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ID

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/203,548	12/01/98	GOLI S	PF-0233-1-DI

HM22/0312

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EXAMINER	
PAK, M	
ART UNIT	**PAPER NUMBER**
1646	13

DATE MAILED: 03/12/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/203,548	Applicant(s) Goli et al.
	Examiner Michael Pak	Group Art Unit 1646

☒ Responsive to communication(s) filed on *Dec 7, 2000*.

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *18-42* is/are pending in the application.

Of the above, claim(s) *20-32 and 35-42* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *18, 19, 33, and 34* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Response to Amendment

1. Amendment filed 7 December 2000(Paper No. 12) has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Applicant's arguments filed 7 December 2000(Paper No. 12), have been fully considered but they are not found persuasive.

4. This application contains claims 20-32 and 35-42 are drawn to an invention non-elected with traverse in Paper No. 8. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) MEP. § 821.01.

Information Disclosure Statement

5. The information disclosure statement filed 1 December 1998 (Paper No.2) continues to fail to comply in part with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. References 1-2 and 15-18 were not

provided and has not been cited in 08/822,264. It has been placed in the application file, but the information referred to therein has not been considered. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MEP. § 609 ¶ C(1).

Applicants argue that the information disclosure statement, form 1449, and the set of six references were mailed together with the issue fee transmitted and were received at the USPTO on November 2, 1998 according to the stamped date on the return receipt postcard. Thus, applicant state that these references should therefore be found in the application file for the parent application 08/822,264. The examiner has examined the parent application 08/822,264 again and did not find the IDS form 1449 nor the references filed with the issue fee transmittal.

Claim Objections

6. Claim 18 is objected to because of the following informalities. Claim 18 recite "TCDD" which appears to be an acronym. It is suggested that the proper name be used in addition to the acronym. Appropriate correction is required.

Claim Rejections - 35 USC § 101

7. Claims 18-19 and 33-34 remains rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a substantial asserted utility or a well established utility.

Applicants argue that Falkenstein on page 86 teach that specific binding sites have been described in membranes for various steroids exposing pharmacological properties distinct from those of the intracellular receptors. However, Falkenstein on page 86 in the next paragraph teach that this "protein is likely to represent the first putative steroid membrane receptor or a part of which sequence information is available." Thus, Falkenstein teaches that further experimentation is needed by using terms such as "likely" and "putative" and thus does not meet the substantial utility.

Applicants directs the examiner's attention to page 3 of the specification. However, page 3 of the specification discusses the relationship between the internal homology of 25-Dx, progesterone binding protein, and IL-6 and the nexus to the IL-6 related diseases. The percent identity of amino acid sequence between the progesterone binding protein to the claimed CYSTAR protein is different from the percent identity of amino acid sequence comparison between 25-Dx and claimed CYSTAR. The percent identity to IL-6 is even lower when compared to others.

Yet the asserted utility of the claimed protein to IL-6 related diseases are made on page 3 of the specification.

Applicants cite teachings from Wehling for a clear nexus between the function of CYSTAR and reproductive/developmental disorders. However, Wehling on page 375, last lines, teach that "the rapid nongenomic effect of progesterone on the spermatozoan acrosome reaction has been questioned recently and future research must delineate the conditions under which progesterone activates the acrosome reaction, if at all." Thus, Wehling teaching indicates that there is doubt as to the progesterone effect and need for further experimentation which lacks substantial utility. Furthermore, the asserted utility on page 3 that "possible linkage between cytokine receptor-mediated signal transduction and steroid signaling pathways in the development of both neoplastic and inflammatory responses" lacks substantial utility because there is no nexus between the possible acrosome reaction of the sperm and IL-6 related diseases.

Applicants argue that CYSTAR is a homolog of rat 25-Dx protein which is known to be responsive to dioxin and thus are important for toxicological testing. However, the percent identity of amino acid sequence between CYSTAR and rat 25-Dx is much lower than CYSTAR percent identity of amino acid sequence comparison with progesterone binding protein. Thus, there is no nexus between the CYSTAR protein and rat 25-Dx protein in

function. No evidence has been provided that CYSTAR is responsive to dioxin or TCDD. "Congress intended that no patent be granted on a chemical compound whose sole 'utility' consists of its potential role as an object of use-testing." *Brenner*, 148 USPQ at 696. The disclosure does not present a substantial utility that would support the requirement of 35 U.S.C. §101.

Claims 18-19 and 33-34 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 112

8. Claims 18 and 33 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 18 limitation (b) encompass a protein encoded by an allelic variant because of the recitation of a naturally-occurring amino acid sequence having at least 95% sequence identity to the sequence of SEQ ID NO:1. Thus, claims encompass

a subgenus of "naturally occurring allelic variants" which is not disclosed in the specification. The ordinary meaning of the term allele is one of two or more alternate forms of a gene occupying the same locus in a particular chromosome or linkage structure and differing from other alleles of the locus at one or more mutation sites (see Rieger et al., *Glossary of Genetics* (1991), pages 16-17). However, the specification only discloses one subgenus of the human polypeptide. Furthermore, the species for the human is not known because some of the amino acids are represented by Xaa for any amino acids or unknown amino acids. The general knowledge in the art concerning alleles does not provide any indication of how the structure of one allele is representative of unknown alleles. The nature of alleles is they are variant structures and in the present state of the art the structure of one does not provide guidance to the structure of others. The common attributes of the genus are not described. One of skill in the art would conclude that applicant was not in possession of the claimed genus because a description of only one member of this genus is not representative of the variants of the genus and is insufficient to support the claim.

Claim 18 limitation (b) recitation of a naturally-occurring amino acid sequence having at least 95% sequence identity to the sequence of SEQ ID NO:1 is new matter because the subgeneric invention is not disclosed in the specification. The

specification disclose the genus of a polypeptide which has 90% sequence identity and the species of SEQ ID NO:1 but does not disclose the subgeneric invention of claim 18 limitation (b).

Applicants argue that the newly amended claim limitation would be understood by one of skilled in the art that applicants were in possession of the claimed invention at the time of the invention. However, the closest homology is with the progesterone binding protein whose expression has not been shown to be upregulated by TCDD. One skilled in the art cannot envision the structure of the naturally occurring allele with the functional limitation. *University of California v. Eli Lilly and Co. (CAFC) 43 USPQ2d 1398* held that a generic claim to human or mammalian when only the rat protein sequence was disclosed did not have written description in the specification.

Claim Rejections - 35 USC § 102

9. Claims 18 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Friedberg et al.(19).

Friedberg et al. disclose a CYP2B12 (pages 778-779, figures 3 and 6).

Claims 18 and 33 encompass an "immunologically active fragment". Friedberg et al. disclose a CYP2B12 which has 4 amino acid sequence identical to SEQ ID NO:1. An antibody which binds the amino acids in common would bind both proteins. The buffers

are pharmaceutically acceptable excipient.

10. Claims 18 and 33 are rejected under 35 U.S.C. 102(a) as being anticipated by Meyer et al.(11) as evidenced by Falkenstein et al.(10).

Meyer et al. disclose the progesterone binding protein (Figures 1-4).

Falkenstein et al. disclose a porcine progesterone membrane binding protein (pages 86-89).

Claims 18 and 33 encompass an "immunologically active fragment". Meyer et al. protein inherently has the amino acid sequence taught by Falkenstein et al. Falkenstein et al. teach that the protein which has 93% amino acid sequence identical to SEQ ID NO:1. An antibody which binds the amino acids in common would bind both proteins. The buffers are pharmaceutically acceptable excipient.

11. Claims 18 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Jacobs et al.((A); US 5,976,837).

Jacobs et al. disclose a porcine progesterone membrane binding protein and pharmaceutically acceptable excipient (columns 3-4, 14-15, 20-21, 23-24, and 39-40).

Claims 18 and 33 encompass an "immunologically active fragment". Jacobs et al. disclose a protein which has 93% amino

acid sequence identical to SEQ ID NO:1. An antibody which binds the amino acids in common would bind both proteins.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Selmin et al.(9) is cited as cumulative references with Falkenstein et al.(10).

13. No claims are allowed.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MEP. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pak, whose telephone number is (703) 305-7038. The examiner can normally be reached on Monday through Friday from 8:30 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler, can be reached on (703) 308-6564.

Official papers filed by fax should be directed to (703) 308-4242. Faxed draft or informal communications with the examiner should be directed to (703) 308-0294.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Michael D. Pak

Michael Pak
Primary Patent Examiner
Art Unit 1646
9 March 2001